

1 1. A method of interpreting a query formed of at least a first term and a
2 second term with respect to a database of items, comprising:
3 identifying at least one candidate single-term interpretation for the first term;
4 identifying at least one candidate single-term interpretation for the second term;
5 identifying one or more candidate multiple-term interpretations, wherein a
6 candidate multiple-term interpretation is a combination of candidate single-term
7 interpretations;
8 providing a plurality of semantic approaches for associating one or more of the
9 candidate multiple-term interpretations with items in the database; and
10 determining a contextual score for each candidate multiple-term interpretation
11 using the database and at least one of said semantic approaches.

1 2. The method of claim 1, wherein the plurality of semantic approaches
2 include treating a candidate multiple-term interpretation as a conjunction.
1 3. The method of claim 1, wherein the plurality of semantic approaches
2 include treating a candidate multiple-term interpretation as a disjunction.
1 4. The method of claim 1, wherein the plurality of semantic approaches
2 include partially matching a candidate multiple-term interpretation.
1 5. The method of claim 1, wherein the plurality of semantic approaches
2 include a disjunctive approach, a conjunctive approach and a partial match approach.

1 6. The method of claim 1, wherein for at least one candidate multiple-term
2 interpretation the contextual score incorporates information about the semantic approach
3 that is used.

1 7. The method of claim 6, wherein incorporating information about the
2 semantic approach includes using a measure of the number of terms in the candidate
3 multiple-term interpretation that are in an associated result set.

1 8. The method of claim 7, wherein using a measure of the number of terms in
2 the candidate multiple-term interpretation that are in an associated result set is a dominant
3 factor in determining a contextual score.

1 9. The method of claim 1, wherein determining a contextual score for each
2 candidate multiple-term interpretation includes using a first of said plurality of semantic
3 approaches for identifying an associated result set for a first candidate multiple-term
4 interpretation and a second of said plurality of semantic approaches for identifying an
5 associated result set for a second candidate multiple-term interpretation.

1 10. The method of claim 1, wherein determining a contextual score for each
2 candidate multiple-term interpretation includes applying a first of said plurality of
3 semantic approaches for identifying a first associated result set and a second of said
4 plurality of semantic approaches for identifying a second associated result set for a first
5 candidate multiple-term interpretation and selecting between the first of said plurality of
6 semantic approaches and the second of said plurality of semantic approaches for
7 determining the contextual score for the first candidate multiple-term interpretation.

1 11. A method of interpreting a query formed of at least a first term and a
2 second term with respect to a database of items, comprising:

3 identifying at least one candidate single-term interpretation for the first term;

4 identifying at least one candidate single-term interpretation for the second term;

5 pruning the candidate single-term interpretations;

6 identifying one or more candidate multiple-term interpretations, wherein a

7 candidate multiple-term interpretation is a combination of candidate single-term

8 interpretations that have not been pruned; and

9 determining a contextual score for each candidate multiple-term interpretation

10 using the database.

1 12. The method of claim 11, wherein pruning includes eliminating each

2 candidate single-term interpretation to which insufficient items in the database

3 correspond.

1 13. The method of claim 12, wherein eliminating each candidate single-term

2 interpretation to which insufficient items in the database correspond comprises generating

3 a query that identifies a maximal result set of the candidate single-term interpretations,

4 evaluating an intersection query for each candidate single-term interpretation with the

5 maximal result set to identify results for the intersection query, and eliminating each

6 candidate single-term interpretation for which the intersection query yields fewer results

7 than a threshold.

1 14. The method of claim 13, wherein the threshold is 1.

1 15. The method of claim 12, wherein pruning includes determining a maximal

2 result set of the candidate single-term interpretations.

1 16. The method of claim 12, wherein eliminating each candidate single-term
2 interpretation to which insufficient items in the database correspond includes identifying
3 results of a union of all of the potential candidate multiple-term interpretations, and
4 eliminating candidate single-term interpretations that do not have associated items in the
5 results of the union.

1 17. The method of claim 12, wherein eliminating each candidate single-term
2 interpretation to which insufficient items in the database correspond includes identifying
3 results of a union of all of the potential candidate multiple-term interpretations, and
4 eliminating candidate single-term interpretations that have fewer associated items in the
5 results of the union than a threshold.

1 18. The method of claim 11, further comprising determining a context-
2 independent score for each candidate single-term interpretation, wherein pruning includes
3 using the context-independent scores of the candidate single term interpretations for
4 selecting candidate single-term interpretations to prune.

1 19. A computer program product, residing on a computer readable medium,
2 for use in interpreting queries composed of at least a first term and a second term relative
3 to a database of items, the computer program product comprising instructions for causing
4 a computer to:

5 identify at least one candidate single-term interpretation for the first term;
6 identify at least one candidate single-term interpretation for the second term;
7 identify one or more candidate multiple-term interpretations, wherein a candidate
8 multiple-term interpretation is a combination of candidate single-term interpretations;

9 provide a plurality of semantic approaches for associating candidate multiple-term
10 interpretations with items in the database; and

11 determine a contextual score for each candidate multiple-term interpretation using
12 the database and at least one of said semantic approaches.

1 20. The computer program product of claim 19, wherein for at least one
2 candidate multiple-term interpretation the contextual score incorporates information
3 about the semantic approach that is used.

1 21. The computer program product of claim 19, wherein the plurality of
2 semantic approaches include a conjunctive approach.

1 22. The computer program product of claim 19, wherein the plurality of
2 semantic approaches include a disjunctive approach.

1 23. The computer program product of claim 19, wherein the plurality of
2 semantic approaches include a partial match approach.

1 24. The computer program product of claim 19, wherein the plurality of
2 semantic approaches include a disjunctive approach, a conjunctive approach and a partial
3 match approach.

1 25. The computer program product of claim 19, wherein instructions for
2 causing a computer to incorporate information about the semantic approach used include
3 instructions for using a measure of the number of terms in the candidate multiple-term
4 interpretation that are in an associated result set.

1 26. The computer program product of claim 25, wherein using a measure of
2 the number of terms in the candidate multiple-term interpretation that are in an associated
3 result set is a dominant factor in determining a contextual score.

1 27. The computer program product of claim 19, wherein instructions for
2 causing a computer to determine a contextual score for each candidate multiple-term
3 interpretation include instructions for using a first of said plurality of semantic
4 approaches for identifying an associated result set for a first candidate multiple-term
5 interpretation and a second of said plurality of semantic approaches for identifying an
6 associated result set for a second candidate multiple-term interpretation.

1 28. The computer program product of claim 19, wherein instructions for
2 causing a computer to determine a contextual score for each candidate multiple-term
3 interpretation include instructions for applying a first of said plurality of semantic
4 approaches for identifying a first associated result set and a second of said plurality of
5 semantic approaches for identifying a second associated result set for a first candidate
6 multiple-term interpretation and selecting between the first of said plurality of semantic
7 approaches and the second of said plurality of semantic approaches for determining the
8 contextual score for the first candidate multiple-term interpretation.

1 29. A computer program product, residing on a computer readable medium,
2 for use in interpreting queries composed of at least a first term and a second term relative
3 to a database of items, the computer program product comprising instructions for causing
4 a computer to:

5 identify at least one candidate single-term interpretation for the first term;
6 identify at least one candidate single-term interpretation for the second term;
7 prune the candidate single-term interpretations;

8 identify one or more candidate multiple-term interpretations, wherein a candidate
9 multiple-term interpretation is a combination of candidate single-term interpretations that
10 have not been pruned; and

11 determine a contextual score for each candidate multiple-term interpretation using
12 the database.

1 30. The computer program product of claim 29, wherein instructions for
2 causing a computer to prune include instructions for eliminating each candidate single-
3 term interpretation to which insufficient items in the database correspond.

1 31. The computer program product of claim 30, wherein eliminating each
2 candidate single-term interpretation to which insufficient items in the database
3 correspond further includes generating a query that identifies a maximal result set of the
4 candidate single-term interpretations, evaluating an intersection query for each candidate
5 single-term interpretation with the maximal result set to identify results for the
6 intersection query, and eliminating each candidate single-term interpretation for which
7 the intersection query yields fewer results than a threshold.

1 32. The computer program product of claim 31, wherein the threshold is 1.

1 33. The computer program product of claim 30, wherein instructions for
2 causing a computer to prune include instructions for determining a maximal result set of
3 the candidate single-term interpretations.

1 34. The computer program product of claim 30, wherein eliminating each
2 candidate single-term interpretation to which insufficient items in the database
3 correspond includes identifying results of a union of all of the potential candidate

4 multiple-term interpretations, and eliminating candidate single-term interpretations that
5 do not have associated items in the results of the union.

1 35. The computer program product of claim 30, wherein eliminating each
2 candidate single-term interpretation to which insufficient items in the database
3 correspond includes identifying results of a union of all of the potential candidate
4 multiple-term interpretations, and eliminating candidate single-term interpretations that
5 have fewer associated items in the results of the union than a threshold.

1 36. The computer program product of claim 30, wherein instructions for
2 causing a computer to prune include instructions for using the context-independent scores
3 for selecting single-term interpretations to prune.

1 37. A method of interpreting a query formed of at least a first term and a
2 second term with respect to a database of items, comprising:
3 identifying at least one candidate single-term interpretation for the first term;
4 identifying at least one candidate single-term interpretation for the second term;
5 determining a context-independent score for each candidate single-term
6 interpretation;

7 identifying one or more candidate multiple-term interpretations, wherein a
8 candidate multiple-term interpretation is a combination of candidate single-term
9 interpretations;

10 determining a combined context-independent score for each candidate multiple-
11 term interpretation using the context-independent score for each candidate single-term
12 interpretation in the candidate multiple-term interpretation;

13 providing a plurality of semantic approaches for associating one or more of the
14 candidate multiple-term interpretations with items in the database;

15 determining a contextual score for each candidate multiple-term interpretation
16 using the database and at least one of said semantic approaches, wherein for at least one
17 candidate multiple-term interpretation the contextual score incorporates information
18 about the semantic approach that is used; and

19 determining an overall score for each candidate multiple-term interpretation by
20 using the contextual score and the combined context-independent score for the multiple-
21 term interpretation.

1 38. A method of interpreting a query formed of at least a first term and a
2 second term with respect to a database of items, comprising:

3 identifying at least one candidate single-term interpretation for the first term;

4 identifying at least one candidate single-term interpretation for the second term;

5 determining a context-independent score for each candidate single-term
6 interpretation;

7 pruning the candidate single-term interpretations;

8 identifying one or more candidate multiple-term interpretations, wherein a
9 candidate multiple-term interpretation is a combination of candidate single-term
10 interpretations that have not been pruned;

11 determining a combined context-independent score for each candidate multiple-
12 term interpretation using the context-independent score for each candidate single-term
13 interpretation in the multiple-term interpretation;

14 determining a contextual score for each candidate multiple-term interpretation
15 using the database; and

16 determining an overall score for each candidate multiple-term interpretation by
17 using the contextual score and the combined context-independent score for the multiple-
18 term interpretation.

1 39. A computer program product, residing on a computer readable medium,
2 for use in interpreting queries composed of at least a first term and a second term relative
3 to a database of items, the computer program product comprising instructions for causing
4 a computer to:

5 identify at least one candidate single-term interpretation for the first term;

6 identify at least one candidate single-term interpretation for the second term;

7 determine a context-independent score for each candidate single-term
8 interpretation;

9 identify one or more candidate multiple-term interpretations, wherein a candidate
10 multiple-term interpretation is a combination of candidate single-term interpretations;

11 determine a combined context-independent score for each candidate multiple-term
12 interpretation using the context-independent score for each candidate single-term
13 interpretation in the multiple-term interpretation;

14 provide a plurality of semantic approaches for associating candidate multiple-term
15 interpretations with items in the database;

16 determine a contextual score for each candidate multiple-term interpretation using
17 the database and at least one of said semantic approaches, wherein for at least one
18 candidate multiple-term interpretation the contextual score incorporates information
19 about the semantic approach that is used; and

20 determine an overall score for each candidate multiple-term interpretation by
21 using the contextual score and the combined context-independent score for the multiple-
22 term interpretation.

1 40. A computer program product, residing on a computer readable medium,
2 for use in interpreting queries composed of at least a first term and a second term relative
3 to a database of items, the computer program product comprising instructions for causing
4 a computer to:

5 identify at least one candidate single-term interpretation for the first term;

6 identify at least one candidate single-term interpretation for the second term;

7 determine a context-independent score for each candidate single-term
8 interpretation;

9 prune the candidate single-term interpretations;

10 identify one or more candidate multiple-term interpretations, wherein a candidate
11 multiple-term interpretation is a combination of candidate single-term interpretations that
12 have not been pruned;

13 determine a combined context-independent score for each candidate multiple-term
14 interpretation using the context-independent score for each candidate single-term
15 interpretation in the multiple-term interpretation;

16 determine a contextual score for each candidate multiple-term interpretation using
17 the database; and

18 determine an overall score for each candidate multiple-term interpretation by
19 using the contextual score and the combined context-independent score for the multiple-
20 term interpretation.